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INTERAGENCY COOPERATION IN COMPREHENSIVE URBAN PLANNING AND AIR QUALITY MAINTENANCE

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Argonne National Laboratory

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INTERAGENCY COOPERATION IN COMPREHENSIVE URBAN PLANNING AND AIR QUALITY MAINTENANCE

A Study Conducted by the Research Staffs of

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Argonne, Illinois 60439

and

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16. ABSTRACT

This is a study of the interagency relationships among state and local air pollution control agencies and comprehensive planning agencies. The study was conducted as a joint effort of the Argonne National Laboratory, Energy and Environmental Studies Division, and the American Society of Planning Officials for the United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Land Use Planning Branch. Staff from EESD and the ASPO research team developed a questionnaire that explored the potential for planning agencies and air pollution control agencies working together to achieve air quality goals. This questionnaire was then submitted to the 900 public planning agencies subscribing to the Planning Advisory Service of ASPO. The results of this survey indicate that the record of interagency relationships has not been good, although there are indications of the potential for planning agencies to participate in and contribute to air quality programs.

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INTERAGENCY COOPERATION IN COMPREHENSIVE URBAN PLANNING AND AIR QUALITY MAINTENANCE

Introduction

New state and local agencies have been created to monitor and regulate air quality as a result of increased public concern for environmental problems. Greater refinement in knowledge about air quality has led planners to recognize that it must be dealt with on many levels. Decisions often involve work done by local and regional planners; for example, decisions that encourage an individual to live in one locale and work in another, or that influence the location of a highway, have a direct bearing on air quality. Similarly, a peculiar concentration of emissions sources may create pollution pockets of particular local significance, or the presence of a sanitarium or of a large elderly population can require special local considerations for air pollution control. In the face of such overlapping needs and problems, it is clear that air quality cannot be achieved by having one agency set standards and another blindly implement them; rather, there must be vital interaction that will mesh air quality considerations into the planning process. For effective coordination of effort, planning agencies must not only make air pollution control a part of their work program but also develop working relations with air pollution control agencies.

Planning activities are often hard to define and patterns vary depending on place, problems and personalities involved; however, it is important to assess how well planning agencies are functioning in terms of investigating the accomplishments of their own work programs and of the types of interaction they have had with state or local air pollution control agencies. To evaluate these functions for this study, a general

information questionnaire survey of urban and regional planning agencies was used.

The Questionnaire

To determine what urban and regional planners are doing in support of air quality control, a questionnaire was sent to various planning agencies in May, 1973. This questionnaire was designed to obtain information in three basic areas: first, to what extent are planning agencies involved in air quality control; second, what kind of working relationships do they have with air pollution control agencies; and finally, what are the agencies' attitudes toward increasing their role in air quality control.

The questionnaire canvassed the entire range of city, county, and multi-jurisdictional planning agencies. It was sent to approximately 900 public planning agencies that subscribe to the Planning Advisory Service of the American Society of Planning Officials. Three hundred and twenty agencies returned questionnaires that were acceptable for tabulation. These were categorized by jurisdictional population and by jurisdictional types -- municipal, county, multi-jurisdictional, or state. Little significant variation was found between different population and jurisdictional groups; consequently, the results are discussed in terms of the totals for all responding agencies. Because the questionnaires were mailed as a general canvass of planning agencies, the returns tend to weight the results in favor of the agencies with larger staffs and greater interest in air quality. The data probably overstates the extent to which urban planners are involved in air quality control. In addition, Table 1 shows the distribution of returns by

jurisdictional categories. The sample is clearly biased toward the metropolitan areas with 234 (73%) coming back from agencies in SMSA's.

The questionnaire was not administered personally, but instead it was simply mailed to the agencies. As could be expected, not all agencies answered every question. Consequently, the results were totaled in terms of those answering each question.

Table 1. JURISDICTIONAL DISTRIBUTION OF AGENCIES RESPONDING TO QUESTIONNAIRE

Metropolitan	Number of Agencies	Nonmetropolitan	Number of Agencies
Central city planning agency in SMSA	62	Municipal (city, town, township, village, etc.) planning agency not in SMSA	26
Municipal (city, town, township, village, etc.) planning agency (not central city) in SMSA	88	County planning agency not in SMSA	15
County planning agency in SMSA	38	City-county planning agency not in SMSA	10
City-county planning agency in SMSA	19	Regional planning agency or council of governments not in SMSA	11
Regional planning agency or council of governments in SMSA	27	States	
		State planning agency	22
		Other	
		Other	2
		Total	320

Participation in Air Quality Management

As Table 2 indicates, planning agencies' participation in air quality control is not uniform. The record is best in environmental planning and preparing, or reviewing, environmental impact statements. Fifty-four percent of the agencies doing environmental planning and 61 percent of those handling environmental impact statements make air quality a specific consideration in their work.

The figures seem to indicate that the environmental impact statement process has done more to involve planning agencies in air quality considerations than the A-95 review. It is difficult, however, to make a clear separation between these two review processes. As agencies develop their capacity to handle work on air quality through these review procedures, they may use it more in other work.

Planning agencies generally have not developed air quality programs. In the important area of land-use planning, only 36 percent of the agencies responsible for such planning consider air quality as an explicit component, and in the area of transportation planning only 33 percent of the agencies say they explicitly consider air quality. These figures are important because planning traditionally has had its greatest impact in land use and transportation, and, as previously mentioned, these two activities have important causal links to air quality. Therefore, it is in these areas that planning could make a significant contribution to the task of controlling air pollution; or, on the other hand, it could cause significant problems through neglect.

There are hopeful signs. Of those agencies that do deal with air quality when doing land-use and transportation planning, a majority of

Table 2 . THE INCORPORATION OF SPECIFIC AIR QUALITY CONSIDERATIONS INTO THE PLANNING PROCESS

Planning Activities	Agencies having primary responsibility for activity(n=320)	Agencies incorporating specific air quality considerations into activity	Percentage incorporating air quality
Land-use plan	307	109	36
Transportation plan	224	73	33
Environmental plan	179	97	54
Housing plan	212	38	18
Redevelopment (e.g., urban renewal)	108	26	24
Health plan	28	11	39
Open space/recretion plan	200	58	29
Capital improvement	189	29	15
A-95 review process	106	48	45
Zoning (land use)	234	97	41
Planned unit development regulations	235	52	22
Subdivision regulations	216	29	13
Building codes	68	26	38
Housing codes	72	23	32
Emission density zone (limits by sources/pollutant/area/time)	28	21	75
Air zoning & smokeless zones(e.g., prohibiting industrial polluters)	48	35	73
Utility extension policies	87	16	18
Review or preparation of environmental impact statements	205	125	61

them incorporate it as a fundamental part of the planning process. (See Table 3.) Seventy-two (66%) of the agencies which incorporate air quality into their land-use plans make it one of the specified goals of the plans. Forty-five (62%) of those doing transportation planning have it listed as one of their goals. This means that when agencies do become concerned with air quality, they make this interest an integral part of their planning process and goals. The figures also mean that these agencies see air quality as a problem that they can influence.

The same pattern follows for the other functional areas within planning -- housing, redevelopment, health, open space, and capital improvement. All of these areas potentially have important interfaces with air quality control because air quality may influence the plan or the plan, air quality. In housing, for example, the poor air quality of various areas may be one cause of declining property values, whereas the location of residential areas may affect air quality due to traffic congestion. Few agencies deal with these interfaces. As with land-use and transportation planning, however, when an agency does incorporate air quality into its plans, it tends to make it a specified goal. For example, 28 out of the 38 planning agencies incorporating air quality into their housing plans included it in their goal structures.

Table 2 and Table 3 also give some information on whether agencies use specific implementaion devices. There is little indication in this data of any attempt to strengthen implementation strategy so that an agency could be more effective with air pollution control. For example one of the strong tools for directing growth patterns, and therefore controlling some aspects of air quality, is the extension of public utilities such as sewer and water. Few agencies (16) have responsibility

Table 3. HOW AGENCIES INCORPORATE SPECIFIC AIR QUALITY CONSIDERATIONS INTO THE PLANNING PROCESS

(Numbers of Agencies)

Planning Activity	As a specified goal of	As a section of	By asking state designated air pollution control agency for review and comment	By incorporating the air quality standard of the state designated air pollution control agency
Land use plan	72	15	20	15
Transportation plan	45	12	13	10
Environmental plan	57	22	25	19
Housing plan	28	7	9	4
Redevelopment	10	8	3	5
Health plan	11	4	4	2
Open space/recreation plan	34	8	11	8
Capital improvement plan	17	6	7	4
A-95 review process	24	10	21	10
Zoning (land use)	42	41	16	21
Planned unit development requirements	25	16	11	13
Subdivision requirements	14	11	9	9
Building codes	4	5	2	6
Housing codes	5	5	3	4
Emission density zoning	5	13	9	7
Air zoning and smokeless zones	7	24	12	7
Utility extension policies	8	6	11	5
Review or preparation of EIS	42	49	56	24

in this area and only eight of them make air quality one of the criteria that is used in setting policy. Likewise, very few agencies have the option of using some of the techniques specifically designed to deal with pollution loading and air quality: only 28 have emission density zoning and 48 have air zoning and smokeless zones.

Zoning remains the primary method by which planning agencies attempt to influence air quality. It is logical that this technique would get the most use because separation of incompatible uses is likely to improve air quality for at least some areas. But even so, only 41 percent of the agencies make air quality a specific consideration in their zoning work.

Probably the most sophisticated way of including air quality in the zoning process is through performance standard zoning. In performance standard zoning, rates of emission per land unit or maximum allowable emission from a given stack are set for a district along with measurement and enforcement procedures. Under these circumstances, it is feasible for the clean steel plant to locate in a zone in which a dirty one could not. The survey showed that over half (55%) of those agencies doing zoning work use performance standard zoning. (See Table 4). Naturally, most of these (73%) include air quality standards.

In asking the agencies how they rank these standards with state and federal standards -- whether they are more or less stringent -- a surprising number did not know. It is unlikely that this is simple ignorance of state and federal standards, but instead a combination of factors. Indeed, they may not have compared them, specifically. But they may also be using what has been described as "primitive" performance standard zoning in which the standards are worded in subjective terms, such as "no obnoxious odors or smoke," instead of in specific measurable standards. In either case, it

is clear that the problem of incorporating state and federal standards into local zoning has not been solved. Better measurement techniques or better air basin models may make this kind of zoning more feasible.

Table 4. AGENCIES USING PERFORMANCE STANDARD ZONING

	Number of Agencies (n=320)		Percent
	Yes	No	No
Is your agency responsible for administering a zoning ordinance?	210	107	66
If yes, does the ordinance employ performance standards	116	94	55
If yes, do the performance standards cover air quality	85	31	73

	More Stringent	Less Stringent	The Same	Don't Know
If yes, how do those air quality performance standards compare to state standards?	8	11	24	42
If yes, how do those air quality performance standards compare to federal standards?		10	7	68

Relationships with Air Pollution Control Agencies

The second objective of the survey was to discover the kinds of relationships that exist between planning agencies and air pollution control agencies. These relationships are important because they can provide a flow of information that will lead to better coordination. Coordination can make the operations of both agencies more

efficient by minimizing the number working at cross purposes. In addition, if these two groups have strong working relationships they will be able to give each other needed support. Both agencies, for example, are often in the position of making adjustments to the private market system in order to guarantee some larger social good. They may find themselves having to play the role of environmental advocates. One agency spokesperson, in answer to the question of how air pollution control agencies could contribute to comprehensive planning, said: "They could back us up when the political heat is on." This, of course, is only the most dramatic form of cooperation. Local planning agencies in particular have a perspective on the local area that can give positive imputs into the entire process of air quality management.

The record of developing these relationships, however, is as inconsistent as the record of directly integrating air quality management into planning programs. As shown in Table 5, only 41 percent of the planning agencies have either a formal or an informal process for working with their respective air pollution control agencies. Approximately 50 more agencies have had some staff interaction -- although they do not have any on-going contact. The majority of those who do, have telephone relationships. When asked to describe the process of working together, most respondants described it as informal -- "we phone them up when the city has a question." There are some, however, who share data and also some who send their materials to the air pollution control agency for review and comment.

This general picture is supported by the questions about more formal interagency relationships. Only nine agencies have staff members who serve in some capacity in a state or local designated air pollution

Table 5. ORGANIZATIONAL RELATIONSHIPS BETWEEN PLANNING AGENCIES AND THE STATE OR LOCAL DESIGNATED AIR POLLUTION CONTROL AGENCY (APCA)

Organizational Relationship	Number of agencies (n=320) Yes	No	Percent Yes
Does your agency and the state or local designated air pollution control agency have a formal or informal process for working together, resolving differences, sharing information, consulting with one another, and so forth on policy, programs regulations, standards, and controls pertaining to air quality?	129	182	41
A staff member of your agency serves on the board, commission, or committee of a state or local designated air pollution control agency (APCA).	9	294	2
Your agency has a technical advisory committee on air pollution control.	15	295	4
A state or local designated APCA staff member serves on a board, commission, or a committee of your agency.	17	290	5
The state or local designated APCA has a technical advisory committee on comprehensive land use planning.	22	170	11
A staff member of your agency has met with a staff member of the state or local designated APCA:	180	106	63
Frequently 30			
Occasionally 90			
Seldom 60			
Never 106			
The state or local designated APCA has used data from your office.	81	128	38
The state or local designated APCA has sought your agency's advice on how land use and transportation planning can be used in an air quality improvement program.	35	240	12
Your agency and APCA mail to one another notices of commission and hearing committee meetings, public hearing, etc.	71	230	23

control agency; there are only 17 cases of the reverse arrangement. It is probably indicative of general inaction on the part of both types of agencies that practically none of them has used an advisory committee arrangement as a coordinating mechanism. The two sets of agencies have done the most in sharing data and in keeping each other informed of hearings and commission meetings. But even so, the record indicates that more could be done.

Further improvement is needed in the areas of exchanging information and coordinating air quality activities among both types of agencies. In this particular case, there seems to be a distinct pattern of the planning agencies going to air pollution control agencies for advice and counsel, but little of the reverse. In only 35 cases have air pollution control agencies approached planning agencies for suggestions on how the land-use and transportation plans could be used to improve air quality. This pattern is particularly evident when one looks at the specific activities associated with air quality management as shown in Table 6. Planning agencies have some input through their traditional stronghold of land-use controls, but they have very little role elsewhere. Even in areas where they would be able to review and evaluate work in order to check it for relevance to local conditions, they do not. For example, in the first item -- air quality effects and damages -- they could give important feedback on the air control agency's work, but evidently they do not have that opportunity.

Planning agencies were asked to describe their achievements pertaining to air quality management activities. Of those answering the question, most said they had made none. Although absolute conclusions should not be drawn from this type of question, it does suggest that no immediate,

Table 6. PLANNING AGENCIES GIVING DIRECT ASSISTANCE TO ACTIVITIES ASSOCIATED WITH AIR QUALITY MANAGEMENT

Activities	Number of agencies (n=230) Yes	No	Percent Yes	If Yes, Qualify: Provide Data	Advise/ Propose	Prepare	Evaluate/ Review	Other
Air quality effects and damages	10	285	3	4	3	1	6	
Air quality standards	21	275	7	8	7	2	7	1
Point source control regulations	15	280	5	6	8	3	8	
Area source emission control regulations	16	282	5	6	4	2	8	
Mobile source emission control regulations	8	287	2	5	7	1	7	
Land use controls (e.g., prevent or modify construction)	107	194	35	42	53	28	53	5
Transportation controls (e.g., auto free zones, parking bans)	38	258	12	17	22	6	18	
Public facility control	35	237	12	13	21	7	17	
Source permit system	15	283	5	7	4	2	6	
Source surveillance	11	283	3	5	2	2	3	
Air quality monitoring	9	286	3	7	1	2	4	
Episode control programs	6	286	2	4	3	1	3	
Air quality data and reports	16	281	5	10	2	5	14	
Emission data and reports	12	273	4	7	4	3	11	

concrete accomplishments are vivid in the respondent's memory. If there are results, they have been nebulous, rather than direct and tangible. In part this may be due to the fact that the relationships are relatively new and still in a formative stage; however, there may be little incentive to develop stronger relationships if those in the past have not received the reinforcement of positive accomplishment.

Planning Attitudes Regarding Air Quality Management

The third and final goal of the survey was to ascertain the planning agencies' attitudes toward air quality management; that is, whether or not they should be involved, and what they feel the possible stumbling blocks have been in the past. These attitudes and opinions are summarized in Table 7 . This section of the survey is important because it gives some indication of the potential for involving planning agencies in air quality management.

Planners overwhelmingly support the idea that they should be involved in air quality management and believe they can make significant contributions to the program. Four-fifths of the responding agencies believe that considerations of air quality lie within their realm of responsibility. They reject the idea that the multijurisdictional nature of pollution problems makes it difficult for them to contribute to air pollution control. Although planners understand the emphasis in published research on a regional, air basin level approach to air quality management, they also see a potential for effective work within a single political jurisdiction.

This positive attitude about planners' potential contributions to air quality management runs throughout the rest of the questionnaire. Fewer respondents feel that their agencies presently have a lot to offer

TABLE 7. ATTITUDES REGARDING THE RELATIONSHIP BETWEEN COMPREHENSIVE PLANNING AND AIR QUALITY CONTROL

	Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	Not Applicable or No Opinion
Any consideration of air quality is beyond the basic function of our agency even if legal authority, funds, staff, and other resources were available for such considerations.	16	46	116	136	6
The air pollution problem exceeds our agency's political boundaries and therefore this agency can make no contribution to air pollution control.	9	41	115	123	28
The majority of the planning commission wants our agency to contribute to air pollution control activities	23	99	36	32	125
The majority of the governing body wants our agency to contribute to air pollution control	28	92	41	21	117
This agency has much to offer a state or local designated air pollution control agency	42	124	78	22	51
Air pollution control should not be handled exclusively by the state or local designated air pollution control agency	75	124	65	28	19

TABLE 7 (continued). ATTITUDES REGARDING THE RELATIONSHIP BETWEEN COMPREHENSIVE PLANNING AND AIR QUALITY CONTROL

	Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	Not Applicable or No Opinion
Effective coordination with the state or local designated air pollution control agency is worth the cost in time and money to this agency	80	168	35	5	49
Even though this agency has much other responsibilities, it should be involved effectively in air pollution control	75	169	36	4	29
Our agency has tried to work with state or local air pollution control agencies, but they have not been very cooperative	6	29	80	57	132
Lack of statutory authority has prevented this agency from participating in air pollution control activities	31	90	96	36	82
We are interested in working on air pollution control activities, but other issues have higher priority	48	183	35	13	27
We do not have any staff qualified to work on air pollution control activities	100	130	60	17	15
The relationship between our activities and air quality is so poorly understood that we can't make a contribution	13	63	145	62	37

TABLE 7 (Continued). ATTITUDES REGARDING THE RELATIONSHIP BETWEEN COMPREHENSIVE PLANNING AND AIR QUALITY CONTROL

	Strongly Agree	Tend to Agree	Tend to Disagree	Strongly Disagree	Not Applicable or No Opinion
Air pollution control agencies do not understand the comprehensive planning process	19	77	81	25	107
It would be politically impossible for us to make a contribution to air quality control programs	14	31	131	67	46
Our agency would be interested in using a quantitative model to evaluate its comprehensive land use and transportation plan alternatives for their impact on air quality	90	125	25	11	50
Air pollution control agency should have authority to veto any proposed major land use development whose emissions would make difficult the maintenance of clean air	85	112	57	34	22

to state or local air pollution control agencies, but the positive response is still over half. When asked to balance staff and budget considerations with output on air quality management, 78 percent believed that effective coordination with air pollution control agencies is worth the time and money involved. Even with other responsibilities, the same percentage agreed that they should put their resources behind air pollution control.

Planners' interest is tempered by their awareness of the specific problems involved. There is some doubt, for example, on the support that they recieve from their commissions and from governing bodies. Only 35 percent of the agencies feel that they have the support of the majority of their planning commissions for contributing to air pollution control activities. A significant number -- 125 -- did not know if they had support or not. The same pattern holds true for the governing bodies. Clearly there is still no general political consensus behind air pollution control, and the agencies are often left in a political limbo without clear indicators from public policy. This political uncertainty probably contributes to the even spread in the responses to the need for statutory authority before embarking on air quality work. On the other hand, these same responses do not indicate political shyness or timidity. Over three-fifths (62%) of the agencies do think it is politically feasible to make a contribution in this area. If they are in doubt about the political situation, at least they are willing to brave it.

As might be expected, the chief limitations that the agencies see are in terms of staff and information. Although they are interested in air pollution control, other work has already established itself as having higher priority. As the rest of the questionnaire supports, the air quality programs in planning agencies are still in their formative stages and it is logical that the longer established work programs tend to push the new to the background. Furthermore, the agencies feel that they need specialization in their staff if they are going to increase their efforts in air pollution control. Two hundred and thirty of the total 320 agencies believe that they do not have staff qualified to work on air quality; a hundred of those feel a specialized staff is particularly important.

This desire for specialized staff reflects the types of programs that agencies would like to develop. As Table 7 indicates, there is general interest in using a quantitative model to evaluate comprehensive land use and transportation plan alternatives for their impact on air quality. A similar concern for quantitative skills dominates planning agencies' desires for relationships with air pollution control agencies. Most of the respondents think of these agencies as sources of "technical assistance and guidance," or "objective criteria by which to judge alternatives," or "data on the comparative effects of different land uses upon the region's atmospheric conditions." There is a clear pattern of concern for what could be called an objective, or technical, approach to air pollution.

In part this response is the logical outgrowth of the political situation described earlier. If the planners are working in a politically hazy area, then it is particularly important for them to be technically clear and precise. Furthermore, the emphsis on staff trained in air quality work and the desire for more technical information are expressions of a general uneasiness when moving into a new area of work. Air quality in particular, seems to create insecurities in terms of methodology. One agency representative pointed directly to an information lag that the agencies feel:

> Air pollution control is achieving a degree of technical advancement at a pace which makes it difficult for city agencies to remain abreast without a degree of coordination which is not present in this area. We need dialogue, correspondence, etc., to keep aware of what can be done in this area -- without relying, totally, on a larger agency.

Probably some of the desire for quantitative modeling and for more specialized staff is an expression of this information lag.

This lag may be due in part to the simple dissemination of information. In the process of the questionnaire, planning agencies were asked about their use of particular information sources developed by the Environmental Protection Agency and air pollution control agencies. The results shown in Table 8 indicate that the majority of agencies have not used these sources. Part of the difficulty may be in preparing materials that are specifically useful to the planning agencies -- particularly those without large, specialized staffs. Many of the remarks made about the role of pollution control agencies could be translated as: Help us apply these air quality programs to the specific conditions we face at this moment.

Positive linkages in the flow of communication can help build the strong relationships that are desirable between the two types of agencies. Air pollution control agencies can assist in developing technical services, and, in a complementary fashion, planning agencies can aid by providing important data. Air quality analysis is only one kind of support they can give to each other; cooperative arrangements should expand into other areas relating to implementation and enforcement of air quality control via the planning and decision-making processes.

Table 8 . PLANNING AGENCIES USE OF EPA SOURCES OF INFORMATION ON AIR QUALITY MANAGEMENT

Information Source	Number of agencies have used the source (n=320)
EPA publications on air pollution damages	60
EPA publications on air pollution control and costs	47
EPA state implementation plans	59
EPA guidelines and/or procedure manuals	78
EPA air quality data	63
EPA emission inventory data	35
EPA publications on emission factors	36
EPA atmospheric dispersion factors	13
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Summary and Conclusions

The record for planning agencies integrating air quality management into their program has not been good. Few agencies specifically consider air quality in the vital areas of land-use planning and transportation planning, and even fewer consider it in other functional areas -- such as housing,open space, or redevelopment. In addition, most agencies lack primary responsibility for developing utility extension policies or zoning tools such as emission density zoning and air zoning, which they could use to influence air quality through their planning programs.

It is significant that those agencies that have dealt with air quality in their work have integrated it into their entire work program. Air quality has generally tended to become one of the specific goals of the planning agency's activities.

The record on interagency relationships between planning and air pollution control is equally weak. Whereas nearly half of the planning agencies have some formal or informal contact with their respective pollution control agencies, most relationships are informal and tend to remain at an exchange of information level. There is little indication of extensive cooperation between both groups.

In spite of this record, there are indications of the potential for planning agencies to contribute to air quality programs. A large percentage of the planning agencies want to be involved and are willing to commit staff and budget to this work. What is needed in order to realize this potential is the availability of technical advice and consultation that will allow the agencies to begin building their capabilities in this area. A role for planning agencies should be specified and set forth in guideline form.

In conclusion, the record of interagency cooperation between planning agencies and air pollution control agencies documented by this survey should not come as a surprize. No strong incentives have been forthcoming from the EPA for State and local air pollution control agencies to use the planning community as a resource. Air pollution control guidelines have suggested that transportation and land use controls be considered in the development of implementation plans, but no specific

guidelines on how this should be accomplished have been published. The EPA has published information and quantitative methods of air pollution analysis, but the record shows lack of general use of this information by the planning community. Again, the absence of precise definitions of roles and responsibilities have created a lack of incentive on the part of planning agencies to make air pollution impact analyses an integral part of the planning process. Perhaps the most recent issues of complex sources and long-term maintenance of air quality standards will provide the impetus for defining roles for the planning community in air quality control. Unless guidelines are forthcoming to direct state and local air pollution control agencies to integrate the planning community into their control plans and programs, it is unlikely that the record of inter-agency cooperation to achieve quality goals will significantly improve in the future.